

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-025657**Date Inspected:** 08-Aug-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

**CWI Name:** John Pagliero  
**Inspected CWI report:** Yes No N/A  
**Electrode to specification:** Yes No N/A  
**Qualified Welders:** Yes No N/A  
**Approved Drawings:** Yes No N/A

**CWI Present:** Yes No  
**Rod Oven in Use:** Yes No N/A  
**Weld Procedures Followed:** Yes No N/A  
**Verified Joint Fit-up:** Yes No N/A  
**Approved WPS:** Yes No N/A  
**Delayed / Cancelled:** Yes No N/A

**Bridge No:** 34-0006**Component:** SAS Tower**Summary of Items Observed:**

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At Tower Base Elevation 13Meters, Electro Slag Welding (ESW) various weld locations, QA randomly observed ABF/JV qualified welder Jeremy Dolman perform CJP groove welding repair on the top of the welded ESW due to ABF QC noted notches after the run off tab removal. The welder has ground removed the notches then tested by QC John Pagliero using Magnetic Particle Testing (MT) with affirmative result. The removal was verified by this QA and obtained same result. The welder was observed welding in the 1G (flat) position utilizing Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1001-Repairs. The weld repair was preheated to more than 300 degree Fahrenheit using propylene gas torch prior welding. During the shift, ABF QC John Pagliero was noted monitoring the welder. Measured welding parameter during welding was 110 amperes on a 1/8" diameter E7018H4R electrode. At the end of the shift, 1G SMAW welding repair was completed at the following ESW weld locations;

ESW Weld Location Joint Type QA MT Remarks

'A' (N-044) Butt Joint MT Passed Repair completed.  
'D' (W-044) Butt Joint MT Passed Repair completed  
'H' (W-045) T-joint MT Passed Repair completed  
'T' (S-043) Butt Joint MT Passed Repair completed

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'V' (W-043) Butt Joint MT Passed Repair completed

At Tower Base Elevation 13Meters, Electro Slag Welding (ESW) T-joint W-042 location 'M', QA randomly observed ABF/JV qualified welder Fred Kaddu perform CJP groove welding repair on the top of the welded ESW due to ABF QC noted linear indications that propagated into the Tower skin plate. The T-joint was repaired with prior approval through Repair Weld Request (RWR) #201108-002. ABF welder has carbon air arc and ground removed the indications then tested by QC Steve Mc Connell using Magnetic Particle Testing (MT) with affirmative result. The removal was verified by this QA and obtained same result. The welder was observed welding in the 2G (horizontal) position utilizing Shielded Metal Arc Welding (SMAW) with 1/8" and 5/32" diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1000-Repairs. The weld repair was preheated to more than 300 degree Fahrenheit using propylene gas torch prior welding. During the shift, ABF QC John Pagliero was noted monitoring the welder. Measured welding parameter during welding was 140 amperes on a 1/8" diameter and 180 amperes on a 5/32" diameter E7018H4R electrode. During the shift, 2G SMAW weld repair was completed and the welder has moved to other location 'G'.

At Tower Base Elevation 13Meters, Electro Slag Welding (ESW) T-joint S-045 location 'G', QA randomly observed ABF/JV qualified welder Fred Kaddu perform CJP groove welding repair on the welded cover due to ABF QC noted overlap at approximately Y=9630mm to Y=9780mm. ABF welder has ground removed the overlap then tested by ABF QC John Pagliero using Magnetic Particle Testing (MT) with affirmative result. The removal was verified by this QA and obtained same result. The welder was observed welding in the 3G (vertical) position utilizing Shielded Metal Arc Welding (SMAW) with 5/32" diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1000-Repairs. The weld cover repair was preheated to more than 300 degree Fahrenheit using propylene gas torch prior welding. During the shift, ABF QC John Pagliero was noted monitoring the welder. Measured welding parameter during welding was 180 amperes on a 5/32" diameter E7018H4R electrode. At the end of the shift, 3G SMAW weld cover repair was completed and other ABF personnel was noted smooth grinding the weld cover of the joint after welding.

At the request of Quality Control Field Supervisor, Bonifacio Daquinag, QA has randomly verified the QC VT/MT of the ESW weld joints top and top one foot vertical weld. The VT/MT of the top portion of the ESW weld joints is being made as partial inspection in anticipation of limited access when the 13Meters diaphragm is installed. The QA verification was performed to verify that the welding and the VT/MT inspection performed by the QC inspector meet the requirements of the contract documents. At the conclusion of the QA verification it appeared that the weld and the QC inspection complied with the contract documents.

ESW Weld Location Joint Type QA MT Remarks

'B' (E-044) Butt Joint MT Passed Top repair and top one foot of vertical weld.

'E' (N-045) T-joint MT Passed Top repair and top one foot of vertical weld.

'F' (E-045) T-joint MT Passed Top repair and top one foot of vertical weld.

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# WELDING INSPECTION REPORT

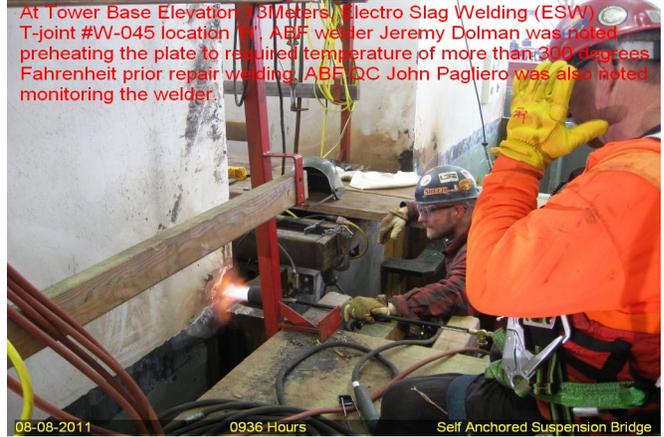
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At Tower Base Elevation 13meters, Electro Slag Welding (ESW) T-joint #S-045 location 'G', ABF QC John Pagliero was observed performing Magnetic Particle Testing (MT) on the overlap removal on the 6" long vertical weld at the top.



At Tower Base Elevation 13Meters, Electro Slag Welding (ESW) T-joint #W-045 location 'U', ABF welder Jeremy Dolman was noted preheating the plate to required temperature of more than 300 degrees Fahrenheit prior repair welding. ABF QC John Pagliero was also noted monitoring the welder.



## Summary of Conversations:

No significant conversation occurred today.

## Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

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**Inspected By:** Lizardo, Joselito

Quality Assurance Inspector

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**Reviewed By:** Levell, Bill

QA Reviewer